

## **Remarks**

The above Amendments and these Remarks are in reply to the Office Action mailed December 2, 2003 in the above-identified patent application.

Claims 1-4, 7-9, 11-14, 17-19 and 21-30 were pending in the Application prior to the outstanding Office Action. In the Office Action, the Examiner rejected claims 1-4, 7-9, 11-14, 17-19 and 21-30. The present Response cancels claims 2-4, 8, 9, 12-14, 18, 19, and 21-30, and amends claims 1 and 11, leaving for the Examiner's present consideration claims 1, 7, 11, and 17. Reconsideration of the rejections is requested.

### **I. OBJECTION TO THE SPECIFICATION**

The amendment filed on August 28, 2003 was objected to under 35 U.S.C. 132 as introducing new matter into the disclosure. The Applicants request that the specification be amended to delete the objected-to material submitted in Response A.

### **II. REJECTION UNDER 35 U.S.C. §112**

#### ***Claims 1, 2, 7, 8, 11, 12, 17, 18, 29 and 30***

The Examiner rejected claims 1, 2, 7, 8, 11, 12, 17, 18, 29 and 30 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants request cancellation of claims 2, 8, 12, and 18. In the interest of advancing prosecution, Applicants further request cancellation of claims 29 and 30. Applicants respectfully traverse the rejection of claims 1, 7, 11, and 17.

The Examiner argues that "Claims 1 and 11 contain the limitation 'at least two of the surfaces meet at an oblique angle' that has no support in the disclosure as originally presented." Applicants have amended Claims 1 and 11 to clarify the limitations and submit that claims 1 and 11 are definite within the meaning of 35 U.S.C. 112, second paragraph. For example, Claim 1 recites an ion generator "wherein said second

electrode includes two or more surfaces defining a channel for the flow of air in the downstream direction; and wherein *the channel further redirects the flow of air at an angle away from the downstream direction.*” Further, Claim 11 recites a device “wherein the tail of at least one of the plurality of second electrodes is arranged to redirect at least a portion of the flow of air...”

Claims 1 and 11 find support in the disclosure as originally presented. For example, in Paragraph [0131], the specification describes tail sections “configured to diverge in order to form a ‘V’ or ‘Y’ configured adjacent to the outlet vents. Thus, in Fig. 5H the upper two tail section 294 are configured to point upwardly on the page while the lower two tail sections remain pointing downwards.” See spec, paragraph [0131]. As described earlier in the specification, the outlet vents are widened “to increase the volume of air that flows therethrough in order to match the intake of air through the inlet vents.” See spec, paragraph [0065]. As shown in Fig. 5H, the electrodes are arranged with tail sections angled, thus forming channels that redirect the flow of air at an angle away from the downstream direction.

Applicants submit that claims 1 and 11 are definite under 35 U.S.C. §112, second paragraph. Claims 7 and 17 ultimately depend from claims 1 or 11, and therefore are definite at least with regard to the structure discussed above. The Applicants therefore respectfully request that the rejection of claims 1, 7, 11, and 17 under 35 U.S.C. § 112 be withdrawn.

### **III. REJECTION FOR NONSTATUTORY DOUBLE PATENTING**

#### ***Claims 1, 3-11, 13-20, 22, 24, 26 and 28***

The Examiner rejected claims 1, 3-11, 13-20, 22, 24, 26 and 28 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 and 21-27 of U.S. Patent No. 6,152,146 to Taylor et al and claims 1-20 of U.S. Pat. No. 6,176,977, also Taylor, et al. Applicants request cancellation of Claims 5-8, 10, 14-16, 18, and 20. In the interest of advancing prosecution, Applicants further

request cancellation of claims 3, 4, 9, 13, 14, 19, 22, 24, 26 and 28. Applicants traverse the rejection of claims 1, 11 and 17.

The Examiner argues that “Claims 1, 3-11, 13-20, 22, 24, 26 and 28 are rejected...as being unpatentable over claims 1-12, 21-27 of U.S. Patent No. 6,152,146 [over claims 1-20 of U.S. Patent No. 6,176,977]...the claims of the patent contain the subject matter that is *narrower in scope* than the instant claims, rendering them obvious over each other” (Emphasis added). The Examiner points out that “the second electrodes are U-shaped with a bulbous nose region and trailing edge regions, or L-shaped with a curved nose region, which reads on the surfaces of the electrodes meeting at an angle.”

For the claims of the patent to be narrower in scope, the claims of the patent **must include at least all** of the limitations of the rejected claims of the application (as well as additional limitations narrowing the patent). Applicants submit that the electrodes described in *Taylor '146* and *Taylor '977* fail to disclose an ion generator “wherein said second electrode includes two or more surfaces defining a channel for the flow of air in the downstream direction; and wherein *the channel further redirects the flow of air at an angle away from the downstream direction*” as recited in Claim 1, or a device “wherein the tail of at least one of the plurality of second electrodes is arranged to redirect at least a portion of the flow of air...” as recited in Claim 11. Claims 1 and 21 of *Taylor '146* and Claims 1 and 12 of *Taylor '977* recite an ion generator “wherein said ion generator outputs an electrostatic flow in a downstream direction toward said second electrode array...” Nowhere do Claims 1-12 and 21-27 of *Taylor '146* or Claims 1-20 of *Taylor '977* recite an arrangement that redirects the flow of air at an angle away from the downstream direction.

Because the claims of *Taylor '146* and *Taylor '977* fail to recite all of the limitations of the rejected claims of the application as asserted by the Examiner, claims 1 and 11 cannot be rendered obvious under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12, 21-27 of *Taylor '146* or claims 1-20 of *Taylor '977*. Claims 7 and 17 ultimately depend from claims 1 or 11, and

therefore include at least the limitations of claims 1 and 11. The Applicants, therefore, respectfully request withdrawal of the rejection of claims 1, 7, 11, and 17.

**IV. REJECTION UNDER 35 U.S.C. §102(E) OVER TAYLOR ET AL. (U.S. PAT. 5,975,090)**

***Claims 1, 3-11, 13-20, 22, 24, 26 and 28***

The Examiner rejected claims 1, 3-11, 13-20, 22, 24, 26, and 28 under 35 U.S.C. § 102(e) as being anticipated by *Taylor* '090. Applicants request cancellation of Claims 5-8, 10, 14-16, 18, and 20. In the interest of advancing prosecution, Applicants further request cancellation of claims 3, 4, 9, 13, 14, 19, 22, 24, 26 and 28. Applicants respectfully traverse the rejection of claims 1, 7, 11, and 17.

The Examiner argues that “Taylor further teaches the second electrodes to be hollow, or have a downstream tail section that is substantially wider than an upstream nose region, or an upstream leading planar section and a downstream trailing section that is at an angle to the leading planar section, or that the surfaces are planar (see Figs. 1a-b, 4a-4k). Taylor further teaches the second electrodes to be V-shaped with the rounded end located closer to the first electrodes (see Figs. 4d-4f).”

Fig. 1A of *Taylor* '090 discloses a second electrode array **30** comprising a plurality of teardrop shaped electrodes having noses substantially wider than tails. Fig. 1B of *Taylor* '090 discloses a second electrode array **30** comprising a plurality of planar electrodes having substantially parallel sidewalls. Figs. 4A-4D of *Taylor* '090 disclose a second electrode array **240** of ‘U’-shaped electrodes **242**. Further, Figs. 4E and 4F disclose a second electrode array **240** of ‘L’-shaped electrodes **242**. Figs. 4G and 4H of *Taylor* '090 disclose a second electrode array **240** of substantially circular electrodes **242**. Figs. 4I-4K of *Taylor* '090 disclose a single ring-like electrode. As can be seen in each of Figs. 4A-4K, **(as illustrated by the white airflow arrows of Figs. 4A-4K)**, and as can be seen in each of Figs. 1A and 1 B, **(as illustrated by the**

**black airflow arrows of Figs. 1A and 1B)**, *Taylor* '090 describes an electrode arrangement that creates downstream airflow, with the airflow continuing downstream without redirection by the electrodes themselves. Nowhere, does *Taylor* '090 disclose an electrode arrangement that redirects the flow of air at an angle away from the downstream direction.

Nowhere, does *Taylor* '090 disclose an ion generator “wherein said second electrode includes two or more surfaces defining a channel for the flow of air in the downstream direction; and wherein *the channel further redirects the flow of air at an angle away from the downstream direction*” (Emphasis added) or a device “wherein the tail of at least one of the plurality of second electrodes is arranged to redirect at least a portion of the flow of air...” as recited in claims 1 and 11.

Since *Taylor* '090 fails to disclose all of the features of claims 1 and 11, *Taylor* '090 cannot anticipate claims 1 and 11 under 35 U.S.C. §102(e). Dependent claims have at least the features of the independent claim from which they ultimately depend; therefore, *Lee* cannot anticipate dependent claim 7 (which ultimately depends from claim 1), and claim 17 (which ultimately depends from claim 11) under 35 U.S.C. §102(e). Accordingly, the Applicants respectfully request the withdrawal of this rejection.

#### **V. REJECTION UNDER 35 U.S.C. §102(B) OVER LEE (U.S. PAT. 4,789,801)**

##### ***Claims 1, 8, 11, and 18***

The Examiner rejected claims 1, 3-11, and 13-20 under 35 U.S.C. § 102(b) as being anticipated by *Lee*. Applicants request cancellation of claims 8 and 18. Applicants respectfully traverse the rejection of claims 1 and 11.

The Examiner argues that *Lee* teaches a system “wherein the second electrodes comprises two or more surfaces that are at an angle to each other (see Figs. 1-3). Referring to Figs. 1-3, *Lee* describes an electrode arrangement that creates downstream airflow, with the airflow continuing downstream without

redirection by the electrodes themselves. Referring to Figs. 4-6, *Lee* describes collector electrodes positioned in relation to the emitter electrode so that a downstream flow can be created in multiple directions with multiple emitter electrodes (one direction for each emitter electrode). The downstream air flow is not redirected by the electrodes, however. Nowhere, does *Lee* disclose an electrode arrangement that redirects the flow of air at an angle away from the downstream direction.

Since *Lee* fails to disclose all of the features of claims 1 and 11, *Lee* cannot anticipate claims 1 and 11 under 35 U.S.C. §102(b). Accordingly, the Applicants respectfully request the withdrawal of this rejection.

**VI. REJECTION UNDER 35 U.S.C. §103(A) OVER *TAYLOR* '090**

***Claims 21, 23, 25, 27, 29, and 30***

The Examiner rejected claims 21, 23, 25, 27, 29 and 30 under 35 U.S.C. § 103(a) as being unpatentable over *Taylor* '090 as set forth in claims 1, 3, 4, 7-9, 11, 13, 14, 17-19, 22, 24, 26 and 28 above. In the interest of advancing prosecution, Applicants request cancellation of claims 21, 23, 25, 27, 29 and 30.

**VII. REJECTION UNDER 35 U.S.C. §103(A) OVER *LEE***

***Claims 3, 4, 9, 13, 14, 19, 21, 23, 25, 27, 29, and 30***

The Examiner rejected claims 3, 4, 9, 13, 14, 19, 21, 23, 25, 27, 29 and 30 under 35 U.S.C. § 103(a) as being unpatentable over *Lee* as set forth in claims 1 and 11 above. In the interest of advancing prosecution, Applicants request cancellation of claims 3, 4, 9, 13, 14, 19, 21, 23, 25, 27, 29 and 30.

## VIII. COMMENT ON RESPONSE TO ARGUMENTS

In the Response to Arguments section of the Office Action, the Examiner mentions that “Applicants are reminded that how the electrodes are operated would have no significant patentable weight in an apparatus claim...how the electrodes are positioned or a particular configuration of an electrode would have been an obvious matter of design choice...it is hereby noted that the instant specification also discloses that the Z-shaped electrodes work equally well as the teardrop-shaped electrodes (see specification paragraph 0133).”

Applicants have requested cancellation of claims 3, 4, 9, 13, 14, 19 and 21-30 in the interest of advancing prosecution. However, Applicants stress that despite the Examiner’s arguments that the electrodes work “equally well,” Applicants have argued repeatedly that the configuration of the electrodes is not a matter of design choice. Further, Applicants respectfully differ on the interpretation of paragraph 0133 of the specification. Paragraph 0133 states that “V” shaped electrodes (not teardrop-shaped electrodes) trap or collect particles “**in a similar fashion**” as the Z-shaped electrodes. Because the electrode works in a similar fashion, does not mean that it works equally well.

MPEP Section 2144.04 IV B cites *In re Dailey*, stating that a change in shape, like the configuration of the claimed disposable plastic nursing container in *In re Dailey*, is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration is significant. Applicants believe that the arguments that have been presented during prosecution that the configurations claimed are significant are persuasive, and wish to preserve such arguments for a continuation application.

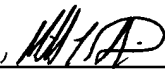
**IX. CONCLUSIONS**

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and a Notice of Allowance is requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: 3/29/04

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